

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 3-9, 11 and 12 are pending in the present application; Claim 1 having been amended and Claim 2 having been canceled by way of the present amendment.

In the outstanding Office Action, document 2-64959 was not considered because it lacks an English translation, Claim 9 was rejected under 35 U.S.C. § 112, first paragraph, Claims 1 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Anzai (U.S. 5,877,903) in view of Lam (U.S. 2002/0006687), Claims 2-4 and 11 were rejected under 35 U.S.C. § 103 as being unpatentable over Anzai in view of Tachibe, Claims 5-8 were rejected under 35 U.S.C. § 103 as being unpatentable over Anzai in view of Itabashi and Lam, and Claim 12 was rejected under 35 U.S.C. § 103 as being unpatentable over Anzai in view of Tachibe and Rivman.

It is indicated that document 2-64959 submitted on February 13, 2008 was not considered because it lacks an English translation. However, a Statement of Relevancy was provided with the IDS. With an English language Statement of Relevancy for 2-64959, the Examiner is required to consider this Japanese publication. Accordingly, the Examiner is respectfully requested to indicate consideration of this Japanese publication in the next communication.

Moreover, on the issue of IDS consideration, it appears that on the Form PTO-1449 which was attached to the Office Action of November 13, 2007, the Examiner inadvertently did not consider document JP 2918921. No explanation was given as to why this document was not considered, and it appears simply to be an oversight. Accordingly, the next Official Action is respectfully requested to indicate consideration of 2918921.

Claim 9 was rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. This rejection is respectfully traversed.

Claim 9 was included with the originally filed application and therefore constitutes part of the original specification. As part of the original specification, it provides support for itself. In order to have antecedent basis in the specification for Claim 9, the specification was amended at p. 10, between lines 16 and 17 to include the exact language of Claim 9.

Accordingly, the rejection under 35 U.S.C. § 112, first paragraph is respectfully requested to be withdrawn.

Claims 1 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Anzai in view of Lam. This rejection is respectfully traversed.

Claim 1 has been amended to recite the limitations that the fixing member is a single fixing member of the condensing lens. This language precludes the use of multiple fixing members and is supported by, for example, Figures 1 and 2. Claim 1 has also been amended to recite that the fixing member is arranged at a position in a center of the lens. This feature is also supported by Figures 1 and 2, for example.

Further, Claim 1 has been amended to recite that the fixing member has an area that is smaller than an area of the condensing lens from a top plan view. As described in the originally filed specification at page 7, line 13, Figure 1 is described as being a top plan view and it can be seen from Figure 1 that the fixing member has an area that is smaller than an area of the condensing lens. Moreover, the fixing member is recited as being a separate member from the condensing lens and the housing. This can be seen in Figure 1, and is described in the specification at page 15, lines 3 and 4. If the members were not separate members, then they could not be fixed to each other.

Claim 1 has also been amended to recite that the fixing member does not directly contact the condensing lens. As seen in Figure 2, for example, the condensing lens 101 does

not directly contact the fixing member 103, but there is a layer of adhesive 104 between the fixing member 103 and the condensing lens 101.

Moreover, Claim 1 has been amended to recite that the condensing lens is fixed to the fixing member using the ultraviolet cure adhesive. Thus, there is provided in the claims the structure which keeps the fixing member from directly contact the lens.

Finally, the limitations of Claim 2 have been incorporated at the end of Claim 1 and the end of Claim 1 now recites, “a coefficient of thermal conductivity of the fixing member is lower than a coefficient of thermal conductivity of the optical housing.”

Turning now to the prior art used to reject the claims, Anzai (U.S.P. No. 5,877,903) teaches a structure in which a lens is directly attached to a housing by adhesive, and does not teach or suggest a fixing member other than the housing.

The outstanding Office Action on page 3 states, “Anzai teaches a lens mounting structure, which is formed integrally with an optical housing.” In Anzai, this integral forming causes a problem in that changes in the environmental temperature are transmitted directly to the lens through the housing by conductive heat transfer. This may cause deformation of the lens, as described on page 8, lines 11 and 12 of the specification, resulting in degradation in the characteristics of the lens.

According to the present invention, as defined by the amended form of Claim 1, the fixing member and the lens are separate members, and also the fixing member and the housing are separate members. Accordingly, the fixing member absorbs temperature changes transmitted from the housing to the lens which suppresses temperature changes in the housing from being transmitted to the condensing lens. Thus, as disclosed on page 15, lines 6-12, the configuration for fixing the condensing lens of the scanning imaging optical system can be provided that is less likely to be affected by changes in the environmental temperature around the housing. Therefore, even when the environmental temperature around the housing

suddenly changes due to the shift of the operation mode, the image formation apparatus can stably form high-quality images.

In addition, the outstanding Office Action asserts that Anzai teaches that thermal conductivity as disclosed in Claim 2 of the invention is shown in Anzai. However, Anzai teaches only the thermal conductivity of the housing but not the thermal conductivity of the fixing member. Therefore, Anzai fails to teach or disclose the subject matter of Claim 2, which has been incorporated at the end of Claim 1.

Regarding Lam (U.S. Published Patent Application 2002/0006687), there is illustrated in Figure 14 that the lens 89 and the frame 91 are integrally formed. This is different from the present invention, as defined by the amended form of Claim 1 as Claim 1 now recites that the fixing member is a separate member from the condensing lens. Further, the lens 89 is not fixed to the frame 91 by ultraviolet irradiation in Lam. On the other hand, in the present invention, Claim 1 recites the feature that the lens is fixed to the fixing member by ultraviolet radiation.

The structure disclosed by Lam is similar to that of Anzai in that the integration of the lens 89 and the frame 91 is attached to the lens shelf 109. Thus, there arises the same problem in Lam as exists in Anzai.

With regard to paragraph 48 of Lam which has been recited by the outstanding Office Action, the frame 91 is made of plastic. However, Lam is silent as to whether it is capable of transmitting ultraviolet rays. Moreover, the latter part of paragraph 46 merely describes that the adhesive is cured by ultraviolet rays and Lam is also silent as to whether the frame 91 is capable of transmitting ultraviolet rays.

In Lam, the frame 91 is larger than the lens 89. On the other hand, according to the present invention, the fixing member 103 is smaller than the condensing lens 101 as shown in Figure 1. With the smaller fixing member, the thermal conductivity of the fixing member can

be reduced. Moreover, after the lens is fixed to the smaller fixing member, even if the fixing member is heated and thus thermally deformed, the smaller fixing member can reduce deformation. Lam cannot achieve this effect. Thus, taking thermal deformation of the fixing member into consideration, it is preferable that a single fixing member be arranged at a position in the center of the lens. If the fixing member is arranged at a plurality of positions, a plurality of deformations will occur.

In view of the above, independent Claim 1 is clearly patentable over all prior art of record, and accordingly, the rejection of Claim 1 is respectfully requested to be withdrawn.

Consequently, in light of the above discussion and in view of the present amendment, the present application is in condition for formal allowance and an early and favorable action to that effect is requested.

Respectfully submitted,

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